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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,760	08/06/2001	Takashi Mizokawa	YAMAH6.007A	1621

20995 7590 09/13/2004

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/922,760	<b>Applicant(s)</b> MIZOKAWA, TAKASHI	
	<b>Examiner</b> Martin Lerner	<b>Art Unit</b> 2654	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/6/01 &amp; 2/12/02</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

On page 4, lines 4 to 8, the copending United States Patent Applications should be updated, as follows:

Serial No. 09/393,146 is now U.S. Patent No. 6,604,091 issued 05 August 2003.

Serial No. 09/736,514 is now U.S. Patent No. 6,629,242 issued 30 September 2003.

Serial No. 09/129,853 is now U.S. Patent No. 6,230,111 issued 08 May 2001.

Serial No. 09/630,577 is now U.S. Patent No. 6,347,261 issued 12 February 2002.

On page 5, line 15, Figure 5 is a block diagram, not a flow chart.

On page 9, line 24, "base" should be —based—.

On page 13, line 9, "be" should be deleted before "suggested".

On page 18, line 5, "4f" should be —2f—. See Figure 2.

On page 21, line 23, "neumatic" should be —pneumatic—.

On page 22, line 6, "neumatic" should be —pneumatic—.

On page 26, line 13, "S110" should be —S100—. See Figure 6.

On page 27, line 7, "4j" should be —4i—. See Figure 2.

On page 28, line 1, "5c" should be —5b—. See Figure 2.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 to 3, 5, 6, 9 to 11, 13 to 15, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by *Henton*.

Regarding independent claims 1, 5, 9, 13, 14, and 15, *Henton* discloses a method and apparatus for automatic generation of vocal emotions, comprising:

“a sound data memory which stores a different sound assigned to each pseudo emotion” – Table 2 gives examples of the defined emotions with their associated vocal emotion values; the values in Table 2 are relative to the default neutral speech setting (column 9, line 56 to column 10, line 40: Table 2); computer system 10 includes memory 17 (column 5, lines 18 to 35: Figure 1); implicitly, values of emotions shown by Table 2 are stored in memory 17 of computer system 10;

“a sound signal generator which receives signals from the pseudo-emotion generator and accordingly generates a sound for each pseudo emotion by retrieving the sound data stored in the sound data memory” – after a particular emotion has been chosen 503 (“receives signals from the pseudo-emotion generator”), the appropriate speech synthesizer values are obtained via look-up table 505 (“generates a sound by

retrieving sound data stored in the sound data memory”) (column 9, lines 47 to 55:

Figure 5: Steps 503 and 505; column 4, lines 38 to 59);

“a sound synthesizer which is programmed to synthesize a sound by combining each sound signal from the sound signal generator, wherein the user can recognize overall emotions generated in the interaction device” – appropriate speech synthesizer values are applied by embedding the appropriate speech synthesizer commands to be output by the text-to-speech system (column 9, lines 47 to 55: Figure 5: Step 507; column 4, lines 38 to 59);

“an output device which outputs a synthesized sound to the user” – computer system 10 has output 21, which implicitly includes a speaker for producing audio to output synthetic speech by a text-to-speech system.

Regarding claims 2, 6, and 10, *Henton* discloses a plurality of emotions (“multiple sets of sound data”) are stored by Table 2, with each emotion represented by parameters for pitch, volume, and speaking rate (column 10, lines 17 to 40: Table 2); a particular vocal emotion is chosen 503 (“a selection device which selects a set of sound data to be used based on a designated selection signal”) (column 9, lines 41 to 55: Figure 5: Step 503).

Regarding claims 3 and 11, *Henton* discloses emotions are defined by a speaking rate (column 10, lines 17 to 40: Table 2); emotions for a concatenative speech synthesizer involve parameters including speech rate and duration (column 3, line 54 to column 4, line 11: Table 4; column 12, lines 1 to 14: Glossary); thus, broadly, both

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duration and speaking rate involve a "designated selection signal indicating the passage of time."

Regarding claim 20, *Henton* discloses emotions are defined by a volume varying between 0.2 for low to 0.8 for high from a default of 0.5 (column 10, lines 17 to 40: Table 2; column 4, lines 1 to 11: Table 1; column 11, lines 1 to 42); thus, Angry2, Aggressive, and Happy are given greater intensity than Sad or Tired ("produce an acoustic effect equivalent to the intensity of the pseudo-emotion").

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Henton* in view of *Saito*.

*Henton* generally discloses an interactive device, insofar as computer system 10 permits a user to interact with a speech synthesizer to select emotions, but omits a designated selection signal indicating the history of interaction between the user and the interactive device. However, it is known for games and toys to draw on a history of interaction with a user to determine a personality for a game or toy. *Saito* teaches a method for controlling character based electronic game development, where initial values of personality elements of a player character are determined before the main

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part starts, but when a pre-event is executed, initial values of the personality elements which correspond to the type of pre-event data can be increased or reduced. Thus, when a player character gets a ring for a girl, initial values of personality elements relating to a sense of beauty are increased, and when a player character plays baseball, initial values relating to exercise ability are increased. (Column 9, Line 35 to Column 10, Line 6) The objective is to improve video games in which scenario-based contents are developed by permitting a game player more naturally to recognize scenario-based developments and to smoothly change characteristics of a player character. (Column 2, Lines 1 to 20) It would have been obvious to one having ordinary skill in the art to select emotions in an interactive device of *Henton* by a signal indicating a history of interaction as taught by *Saito* for the purpose of permitting characteristics to naturally develop in a scenario-based video game.

6. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Henton* in view of *Edatsune* ('488).

Concerning claim 7, *Henton* discloses a method and apparatus for generation of emotions by user interaction with a computer system 10, but omits a growth stage selection unit to select an artificial growth stage based on the passage of time by a signal from a growth stage calculating unit. However, *Edatsune* ('488) teaches a toy providing interactive speech recognition with varying responses, where a response level value is gradually increased to provide an illusion that a stuffed toy is growing up like a living creature as time passes. Thus, a stuffed toy can only respond with "Bow-wow" to

"Good morning" on the first day after being purchased, but on the second day, it can respond "G-o-o-d mor-ning" to "Good morning", and after several days, the stuffed toy can respond with "It's a nice day, isn't it?" to "Good morning" because of a higher level. (Column 12, Lines 12 to 56: Working Example 3) The objective is to enable a more sophisticated interaction by a toy in response to speech issued by a user. (Column 1, Lines 30 to 46) It would have been obvious to one having ordinary skill in the art to provide a growth stage selection unit for calculating a growth stage based on the passage of time as taught by *Edatsune* ('488) in a method and apparatus for generating emotions of *Henton* for the purpose of enabling a more sophisticated interaction by a toy in response to speech issued by user.

Concerning claim 16, *Henton* discloses a speech synthesis method and apparatus for generating emotions, where any stimulus to produce emotions is provided by a user through keyboard or touch screen input 13, but omits a stimulus recognition device for recognizing stimuli from the outside. However, it is well known, generally, for interactive voice response (IVR) systems to provide speech recognition and speech synthesis, and, specifically, for a toy to include interactive voice response (IVR) so as to recognize speech and respond with synthetic speech. *Edatsune* ('488) teaches a toy providing interactive speech recognition with varying responses, where microphone 1, speech analysis unit 2, and speech recognition unit 5 recognize input speech, and speech synthesis unit 6 and speaker 8 output the content of speech synthesized to the outside. (Column 4, Line 40 to Column 5, Line 5: Figure 1A) Also, a response content creation unit outputs responses by taking into consideration environmental temperature



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and air pressure. (Column 3, Lines 1 to 10) The objective is to enable a more sophisticated interaction by a toy in response to speech issued by a user. (Column 1, Lines 30 to 46) It would have been obvious to one having ordinary skill in the art to provide a stimulus recognition device for taking into consideration speech, temperature, and air pressure and for outputting responses as taught by *Edatsune* ('488) in a method and apparatus for generating emotions of *Henton* for the purpose of enabling a more sophisticated interaction by a toy in response to speech issued by user.

7. Claims 17 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Henton* in view of *Kibre et al.*

*Henton* discloses a method and apparatus for generation of emotions, where a table provides for correspondence between registered emotions and sound (column 10, lines 17 to 40: Table 2), but omits a character forming device for forming any of a plurality of characters, a growth stage specifying device for specifying growth stage, and a table selection device for selecting any of a plurality of sound data correspondence tables. However, *Kibre et al.* teaches a computerized personality system with a text-to-speech engine, where words and phrases may be tagged to indicate a linguistic context of which voicing parameters to use. (Column 2, Line 58 to Column 3, Line 18: Figure 1) Specifically, parameters used by the system provide for speaker types of human, alien, robot, and animal ("a character forming device for forming any of a plurality of characters"), and an age parameter for baby, toddler, child, teenager, middle-aged adult, and old adult ("a growth stage specifying device for specifying growth stage").

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(Column 8, Lines 1 to 19) Each linguistic context specifies a set of parameters defining a character type or growth stage, analogous to values for emotions in Table 2 of *Henton*. Thus, each linguistic context is represented by a table of values ("sound data correspondence tables"). The objective is to provide a sophisticated text-to-speech engine that automatically generates natural-sounding spoken messages that enhance the simulation of a human attendant by selecting different types of expressions under different circumstances. (Column 1, Lines 30 to Column 2, Line 2) It would have been obvious to one having ordinary skill in the art to provide a character forming device, a growth stage specifying device, and a table selection device as suggested by *Kibre et al.* in a method and apparatus for generating emotions of *Henton* for the purpose of automatically generating natural-sounding spoken messages that enhance the simulation of a human attendant.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Breese et al. discloses related art.

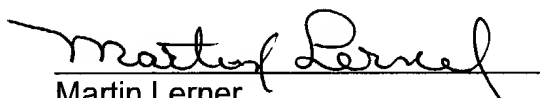
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML  
9/8/04

  
Martin Lerner  
Examiner  
Group Art Unit 2654